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**The Theme of Genetic Mutation in Marvel's Hero
Movies**

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Abstract

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This study explores the theme of genetic mutation and fusion in Marvel's superhero films, with a focus on their cultural and societal implications. Through close analysis of *Spider-Man* (2017–2021), *X-Men* (2000–2019), and *The Incredible Hulk* (2008), the research examines how genetically altered protagonists not only contend with their extraordinary powers but also embrace roles as agents of social justice and transformation. These films engage with issues of racial equity, communal responsibility, and societal advancement by using genetic mutation as a metaphor for identity, marginalization, and human potential. The paper begins with a historical overview of mutation motifs in mythology and early cinema to provide context for contemporary superhero narratives. Subsequent chapters analyze (1) how Spider-Man's transformation enhances his commitment to community welfare, (2) how the X-Men symbolize resistance to discrimination and advocate for inclusivity, and (3) how *The Incredible Hulk* (2008) represents the ethical challenges of managing volatile power within societal norms. The concluding chapter emphasizes the need to balance scientific advancement with ethical responsibility and argues that Marvel's portrayal of genetic mutation offers both cautionary and aspirational visions of human evolution. By situating Marvel's heroes within broader discourses on diversity, ethics, and social progress, this research sheds light on the transformative power of popular culture in shaping public attitudes toward genetic science and collective responsibility.

摘要

論文名稱：漫威英雄電影的變種基因主題

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變種基因、超級英雄、漫威電影、文化再現、社會正義

本研究探討漫威超級英雄電影中「變種基因」主題的敘事表現與其社會文化意涵，聚焦於《蜘蛛人》(2017 - 2021)、《X 戰警》(2000 - 2019) 及《無敵浩克》(2008) 三部作品。這些英雄角色因基因突變或融合而獲得超能力，卻同時面臨個人認同與社會排斥等困境，在應對挑戰的過程中，展現出對社會正義與多元共融的積極回應。漫威電影透過基因突變的隱喻，傳達對種族平等、社區正義及人性演進的文化想像。第一章回顧從希臘神話的奇美拉、米諾陶，到早期電影《變蠅人》(1986) 等文本中基因異變的原型與意涵，並引入當代科技與倫理發展的脈絡。第二章分析《蜘蛛人》中角色如何因獲得超能力而肩負起社會責任，並透過其內心掙扎與行動反映出典型英雄的養成。第三章探討《X 戰警》作為多樣性基因突變者的集體象徵，如何在面對歧視與壓迫中爭取平權與認同。第四章以《無敵浩克》(2008) 為例，探討當基因突變導致無法控制的力量時，社會應如何在維護公共安全與尊重個體權益間取得平衡。最後，本文總結漫威電影中基因變異敘事對當代文化的啟示，強調科技進步應與倫理反思並進，以促進遺傳多樣性的永續發展與人類社會的整體福祉。

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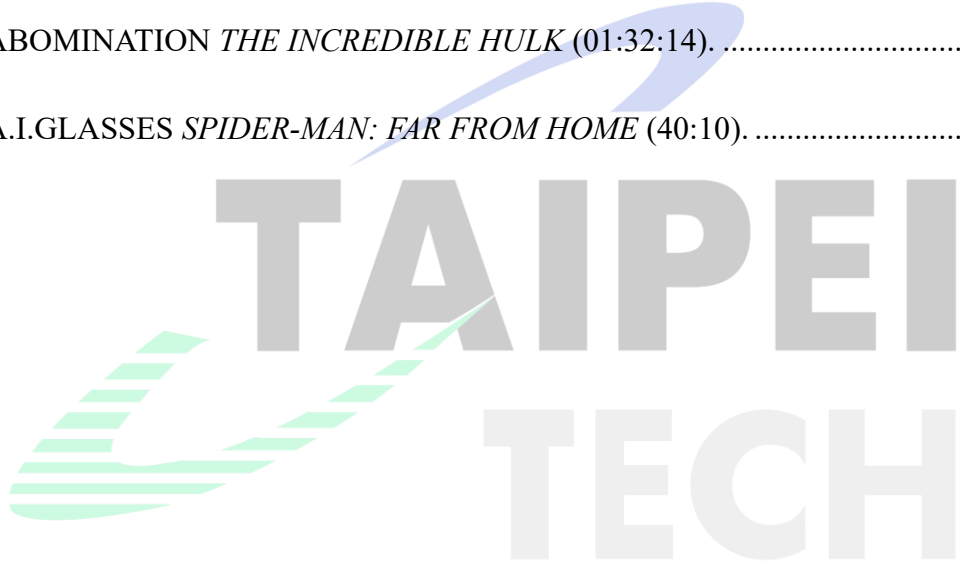


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Chapter I: Introduction: Mutation, Myth, and Modernity



Fig. 1. *The Fly* (00:49:04).

After nearly a month of self-isolation, Brundle (Jeff Goldblum), now plunged into despair, has begun to exhibit more characteristics of a fly, with his transformation accelerating rapidly. He is unable to ingest food directly and must regurgitate enzymatic digestive juices to pre-digest his meals. He has also discovered the ability to climb walls and exhibit fly-like movements.

Throughout history, humanity has been captivated by fantastic creatures born with genetic mutations and amazed by their potential to perform extraordinary tasks beyond human capabilities. One of the earliest examples is the Greek myth of the Chimera, a creature with the head of a lion, a goat's body, and a snake's tail. Another example is the Minotaur, a creature with the head and tail of a bull and the body of a man. These strange creatures demonstrate humans' long-standing fascination with different genetic combinations that create supernatural

or superhuman beings with unique power. This fascination continues on even to this date and is well represented in the artworks of various media, including stories, novels, paintings, graphics, and especially popular films. In the early stage of science fiction genre in film, the concept of genetic mutation has been explored in a horror movie entitled *The Fly* (1986). In this film, a scientist accidentally combines his DNA with that of a fly, resulting in pathetic physical and then psychological transformation. This film foregrounds a growing concern about the potential dangers of genetic blending and the ethical implications of altering human DNA, as Caillou Pettis warns in his film review: “The Fly explores profound themes, serving as a cautionary tale about the dangers of unchecked ambition and the consequences of meddling with nature” (Pettis). However, with the advancement of genetic engineering, the topic of genetic mutation becomes more and more relevant to contemporary society because of the ethical and societal issues emerging with the technology. For instance, the development of gene-editing technology has raised concerns about the possibility of creating “designer babies” (Graves 19-20) with specific designated traits. Besides, there are growing worries about eugenics potential and the creation of a new class of “superhumans” (Graves 19-20). In contrast, there is a more positive and optimistic view of genetic engineering, as Loewe and Hill assert, “Population genetics is fundamental to our understanding of evolution, and mutations are essential raw materials for evolution because they fuel the variability in populations and thus enable evolutionary change” (1153). People’s reception of the genetic mutations generated by human intervention seems to fall on all sides.

Marvel movies are renowned for presenting modern and advanced concepts, typically blending elements of science fiction with real-world relevance. Although the advanced technologies portrayed in Marvel films are primarily fictional, certain ideas have the potential to inspire real-life technological innovation, ignite viewers' imaginations, and prompt reflection on the impacts of such advancements. Marvel Studios has effectively sparked

discussions about fundamental dimensions such as technology, society, and ethics through its fictional universe and imaginative storytelling about human existence. The influence of Marvel movies permeates multiple aspects of social life. Commercially, Marvel films have achieved immense success, generating billions of dollars in box-office revenue. According to Jiang's marketing analysis paper, "Research on Marvel Studios' Product Marketing Strategy in the New Media Environment," explores Marvel's effective media strategies. Marvel's success can be attributed to their excellently designed marketing strategies, including trailers, social media, and cross-media collaborations. Marvel movies are also employed as educational tools. Some educators use Marvel films to teach subjects such as history, science, and literature. For instance, Martins, Mello, and Santos argue in the article *"Teaching Science Through Inquiry from the Perspective of the Marvel Cinematic Universe"* that Marvel movies can assist students in understanding scientific concepts and principles. (2)

In popular culture, these social and ethical concerns associated with genetic mutation are especially addressed in Marvel's superhero movies, in which the protagonists face discrimination and prejudice due to their genetic anomaly and the resulting superhuman abilities. This reflects the real-world challenges experienced by individuals with genetic differences. By exploring these topics, Marvel superhero movies are crucial in raising awareness and promoting greater understanding and acceptance of genetic diversity, as Loewe and Hill have urged. By highlighting the ethical and social implications of genetic engineering and the challenges faced by individuals with genetic differences, these movies offer a unique platform for conversation and dialogues among scientists, movie makers, and audience. It, then, becomes the target of this research to investigate how these films account for the stories of genetic mutation and, through their portrayal of the correlated problems, influence societal attitudes and expectations toward human potential and shape societal perceptions and expectations about human potential and technological progress. While previous studies have

explored the social impact of superheroes, for example, research on Spider-Man mainly focuses on his adolescent growth and sense of social responsibility. Mutants, meanwhile, are frequently interpreted as metaphors for minority groups within society, such as those defined by race, skin color, sexual orientation, or social class. However, most of these studies emphasize symbolic interpretations of the characters, with limited exploration of how genetic mutation as a scientific concept specifically functions within cinematic narratives. Additionally, studies on the Hulk often center on director Ang Lee's interpretation, with comparatively fewer discussions addressing how Hulk's portrayal in the Marvel Cinematic Universe (MCU) raises ethical dilemmas, a specific analysis of genetic mutations within the Marvel Cinematic Universe (MCU) will offer a more unique and in-depth perspective.

This thesis proposes that these genetic mutation movies, most notably Spider-Man, X-Men, and *The Incredible Hulk*, reflect a variety of human responses to genetic mutation, resulting from either natural occurrence or human genetic engineering. They capture our curiosity and excitement about pushing human limitations and inspire imagination about future technologies. Furthermore, the films also highlight the potential risks of genetic manipulation technologies. Uncontrolled mutation poses a possible threat, prompting audiences to consider the ethical boundaries of scientific advancements. By examining examples from Spider-Man, X-Men, and *The Incredible Hulk* (2008), this thesis delves into how these superhero narratives use the metaphor of genetic mutation to explore issues of identity, social acceptance, and belonging. This approach highlights how these fictional journeys can prompt us to reflect on our own real-world attitudes toward diversity and difference. While these concerns about genetic manipulation and future technological applications are certainly thought-provoking, this study will primarily focus on how these superhero narratives portray the psychological journeys of characters who undergo genetic transformations from exclusion and struggle to eventual social acceptance and identity

formation. In doing so, this thesis aims to explore the broader social and cultural insights that these fictional journeys can inspire in the real world.

This introduction lays the foundation for the analysis of genetic mutation's societal and cultural impacts, as shown in Marvel's superhero movies. Subsequent chapters will deal with such topics as the superheroes' quest, societal perceptions of genetic diversity, and the ethical implications of gene manipulation. This exploration sets the stage for a fuller understanding of genetic mutation in popular culture and underscores its importance in shaping contemporary discourse on science, ethics, and society. In the subsequent chapters, we will explore various aspects of genetic mutation as portrayed in Marvel superhero movies. Chapter 2 will focus on Spider-Man, the personal strengths gained through genetic mutation, and responsibilities and challenges. In contrast, Chapter 3 will examine the diverse genetic mutation powers of the *X-Men* and their fight against discrimination. Chapter 4 will analyze the methods and strategies employed in response to the threat of uncontrolled mutant abilities, as depicted in *The Incredible Hulk*. Finally, Chapter 5 will conclude the discussions by summarizing the findings of our analysis and reflecting on the broader implications of genetic mutation in Marvel movies. Through this research, we aim to deepen our understanding of the societal and cultural impacts of genetic mutation portrayed in Marvel superhero movies, shedding light on the broader themes, issues, and questions these iconic films raise.

Chapter II: *Spider-Man*: Power, Responsibility, and the Urban Collective



Fig. 2. Ferry to tear in half *Spider-Man: Homecoming* (01:18:25).

A classic scene from the movie. In the film, Adrian Toomes (Michael John Douglas), also known as the Vulture, malfunctions his laser weapon, causing the ferry to tear in half.

Spider-Man uses his webs to bind the halves of the ferry together, struggling to hold the massive structure together.

While much of the scholarly discussion around Spider-Man focuses on his journey from gaining superpowers to becoming a hero (Clyman; Fandos Marí and Sjah et al.) or on Marvel's commercial strategies in using Spider-Man (Skierkiewicz), few scholars have examined how Spider-Man's genetically altered powers actually shape his psychological journey. Before being bitten by the spider, Peter Parker was already a bright student but lacked the physical

strength or courage to stand up for himself. It was only after this accidental genetic transformation, granting him superhuman strength and agility, that Peter's real struggle to become a hero began. This suggests that psychological growth and social acceptance are not just about heroic ideals, but about how newly acquired powers open possibilities for identity formation and agency. As this chapter will argue, Spider-Man's story reflects the complex interplay between power and identity. While his choice to act bravely is his own, it is a choice made possible by his newly empowered self, equipped to fight for his beliefs. In contrast to X-Men's portrayal of mutation as a natural and evolutionary process, Spider-Man's genetic transformation is the result of a freak accident, an unplanned incident that grants him extraordinary powers. However, just like the mutants who are born different, Peter Parker must also grapple with the fear, social stigma, and moral questions that come with his new abilities. *Spider-Man: Homecoming* (2017), *Spider-Man: Far From Home* (2019), and *Spider-Man: No Way Home* (2021) were produced by Columbia Pictures and Marvel Studios and distributed by Sony Pictures Entertainment. This trilogy represents the second reboot of the Spider-Man franchise and has become globally recognized for generating extensive discussion and box-office success. While mutations have been described in evolutionary biology as natural sources of genetic diversity (Loewe and Hill), Spider-Man's story highlights a different kind of genetic transformation one that occurs accidentally, yet pushes him into a journey of profound self-discovery and social responsibility. As with all previous Spider-Man films, most academic discussions focus on Spider-Man's heroic journey, emphasizing the principle that "with great power comes great responsibility." (*Spider-Man: Homecoming*, 2017, 01:27:46) However, this paper will explore Spider-Man's transformation from the perspective of genetic modification after birth, examining how acquiring extraordinary powers impacts the protagonist, identity, sense of belonging, and journey toward social acceptance. This chapter aims to analyze (1) how life takes a drastic turn after Peter Parker (Tom Holland) accidentally

gains genetic mutation abilities and becomes Spider-Man, and (2) how this change subsequently affects his mental state.

In *Spider-Man: Homecoming* (2017), Peter Parker (Tom Holland) begins his journey in the Marvel Cinematic Universe alongside the imposing figure of Iron Man. Tony Stark (Robert Downey Jr.) initially appears before Peter with an air of arrogance. Peter amusingly films himself interacting with Tony's bodyguard, Happy Hogan (Jon Favreau), asking a series of enthusiastic questions resembling those posed by Marvel fans. On their way back to New York, Tony assumes a fatherly yet condescending role, advising Peter to remain simply a neighborhood Spider-Man. However, Peter, passionately eager to join the Avengers, longs to accomplish something significant to earn Tony's respect and attention. As Peter Parker reluctantly returns to school, he struggles with the frustration of wanting to be a hero while needing to conceal his true identity. He carries deep emotional pressure along with a strong sense of justice, driven by a desire to be noticed by Tony. Yet Tony seems indifferent, and even Happy tends to overlook him, reflecting on an adult world that tends to dismiss children as simply playing at grown-up responsibilities. Of course, Tony and Happy are not entirely unconcerned about Peter's well-being; rather, they treat him as adults often treat children hoping he'll stay out of trouble. Tony himself ironically admits his parenting style toward Peter mirrors the way his father once treated him.

Peter Parker is a high school student in Queens, New York, who, despite being a science genius, struggles with feelings of not belonging, in the movie *Spider-Man: Homecoming* (2017). Peter is depicted sitting alone at lunch, attempting to engage with classmates who ignore him, reinforcing his sense of not fitting in (00:09:05-00:17:46). One day, Peter's course of life undergoes a sudden change when a radioactive spider bites him, granting him extraordinary powers such as superhuman strength, speed, agility, and a spider sense that warns him of danger. As shown in the section (00:15:42-00:25:14), Peter swings through the

city using his spider webs, marveling at his newfound abilities, and feeling invincible. Initially hesitant about embracing his powers, Peter witnesses a crime and decides to intervene, eventually stopping a car thief using his spiderwebs (00:16:07-00:17:03). His actions as Spider-Man quickly bring him public recognition, making him a famous hero, though this newfound fame comes with challenges. He faces the dilemma of keeping his identity a secret from loved ones. After resolving a crime, Peter quietly returns home, only to be discovered by his best friend, Ned (Jacob Batalon), who was waiting in his room and thus learns of his secret identity. The following evening, Peter and Ned attend a party hosted by Liz, a popular classmate, at her home. Ned suggests that Peter arrive dressed as Spider-Man, pretending that Spider-Man know Peter and Ned, to win the favor of their classmates. However, an energy core carried in Ned's backpack becomes unstable due to radiation exposure and explodes, severely damaging an elevator carrying their classmates, placing their lives in immediate danger. In the process of rescuing his loved ones, Peter struggles with the frustration of being unable to reveal his true identity, exemplified in his need to hide his superhero persona from his girlfriend, Liz Allen (Laura Harrier) (01:25:03-01:31:18). Additionally, Peter Parker learns that the Vulture is planning to hijack an airplane carrying dangerous weapons, which forces him to choose between attending a dance with Liz or stopping the Vulture. Ultimately, he chooses to stop the Vulture, showing his sense of responsibility and heroism (01:31:20-01:48:20). Despite facing dilemma or impasse, Peter remains dedicated to helping others, becoming a symbol of hope for New York City (01:00:51-01:02:03), proving that even an ordinary individual can make a significant difference.

In *Spider-Man: Far From Home* (2019), following the events of *Avengers: Endgame*, Peter Parker finally returns to his ordinary high school life after the epic battle against Thanos. He embarks on a summer trip to Europe with his classmates and teachers, planning to use the opportunity to confess his feelings to his crush, MJ (Zendaya). However, their journey is soon

disrupted by mysterious monster attacks, and they encounter a strange sorcerer fighting these creatures. Peter is once again compelled to don the Spider-Man suit and take on the responsibility of protecting not just his friends, but the world. Having gone through the events of Endgame, Peter no longer resists the idea of being a friendly neighborhood Spider-Man; instead, he embraces it as natural. He now cherishes his normal high school life and is no longer willing to recklessly throw everything away to fight villains. As a result, he deliberately avoids former S.H.I.E.L.D. director Nick Fury's (Samuel L. Jackson) persistent recruitment, unaware of the weight of responsibility left to him by the late Iron Man, who saw Peter as his successor. This journey forces Peter to confront not only his duty as a hero but also various personal challenges, grieving the loss of his mentor Tony Stark, navigating the complexities of teenage relationships and love, and ultimately coming to terms with his own identity as a superhero. Through the course of the film, he undergoes a transformation, emerging with a deeper understanding and a more mature mindset to carry the mantle of a true hero. In *Spider-Man: Far From Home* (2019), Peter Parker's naivety is revealed through a critical decision that nearly results in an irreversible mistake. Trusting someone he barely knows, Peter is deceived by a fellow enhanced individual and hands over Iron Man's high-tech equipment to the mysterious sorcerer Mysterio. Later, as Peter attempts to reclaim it, he is nearly killed in an elaborate trap. The media, manipulated by Mysterio, turns public opinion against Spider-Man, sparking an anti-hero frenzy. This moment not only showcases Spider-Man's power but also his vulnerabilities, highlighting that even heroes can make grave errors in judgment. The film's use of illusion-based holograms blurs the line between reality and deception, both in battle and within Peter's internal conflict. These illusions mirror Peter's uncertainty about his identity and place in the world. For a hero, what defines reality? Is it the suit, or the face beneath the mask? Should Peter choose between being Spider-Man or a regular high school student or can he find a balance between the two?

These questions represent the core tension Peter has faced since *Spider-Man: Homecoming* (2017). Returning to Stan Lee's original intent in creating Spider-Man, the character was not just a projection of Lee imagining himself as a superhero (C. Carter and J. Carter), but also a gift to readers a symbol that anyone could become a hero (Firestone). Peter's willingness to trust Quentin Beck, a stranger, after the loss of his mentor Tony Stark reflects the innocence, idealism, and goodness that make Spider-Man so beloved. As expressed in *Spider-Man: Into the Spider-Verse*, "Anyone can wear the mask." (*Spider-Man: Into the Spider-Verse*, 2018, 01:56:46) Stan Lee's greatest achievement was offering everyone the chance to become their best selves. Ultimately, *Far From Home* (2019) stays true to the core spirit of every Spider-Man story: "With great power comes great responsibility." (*Spider-Man: Homecoming* 01:27:46) To combat chaos and protect those he loves, Peter must not retreat or look away, but recognize his responsibility and rise to the challenge. That is the essence of growth for a person and for a hero. At the end of *Spider-Man: Far From Home* (2019), Peter Parker's secret identity is exposed by Mysterio. The shocking revelation is broadcast on public screens in the streets via a sensational news report, causing a major impact on Peter's life and the safety of those close to him. Although Peter ultimately breaks through the illusions and defeats Mysterio, who is killed by a drone, footage of the incident is later manipulated. The edited video falsely frames Spider-Man as Mysterio's murderer. This fabricated narrative is broadcast by The Daily Bugle's editor-in-chief, J. Jonah Jameson, who not only accuses Spider-Man of murder but also publicly reveals Peter Parker's true identity. *Spider-Man: No Way Home* (2021) picks up directly after this revelation. In the early part of the film, viewers witness Peter's once-peaceful life quickly unravel. Everywhere he goes, he is surrounded by chaos, and he is even arrested by the police under suspicion of murder. The scandal affects not only Peter, but also his girlfriend MJ and best friend Ned—three bright students who, because of their association with the controversy, are rejected by MIT. At the conclusion of *Far From*

Home (2019), Mysterio armed with advanced technology and illusion, creates a fake video claiming he was murdered by Peter using Stark Industries drones. He also reveals Spider-Man's face and name. This footage falls into the hands of J. Jonah Jameson, who seizes the opportunity to push an anti-Spider-Man agenda through constant media coverage and sensationalized headlines. As the video plays on public screens in the square, Spider-Man's identity is unveiled. *No Way Home* (2021) continues this moment, showing Peter surrounded and pushed by the crowd, forcing him to flee the scene with MJ.

Not long after Peter's identity is exposed, the police arrive at his home to arrest him, along with MJ, Ned, and Aunt May. During their interrogation at the station, none of their testimonies are believed, and the officers even suggest they may face additional charges. Back home, Aunt May consults a blind lawyer, who impressively catches a brick thrown through the window with his bare hand. Peter, surprised, asks how he did that, to which the lawyer calmly replies, I'm just a really good lawyer. This lawyer is none other than Matt Murdock, also known as Daredevil. In addition to Spider-Man's identity being revealed, the identities of his friends, girlfriend, family members, and even his home address are made public. With Peter falsely accused of murdering Mysterio, they are treated like criminals wherever they go. Peter, MJ, and Ned who were once confident about being admitted to MIT each receive rejection letters, citing recent events as the reason. In desperation, Peter visits the Sanctum Sanctorum to ask Doctor Strange (Benedict Cumberbatch) for magical help, hoping to use the Time Stone or another spell. Since the Time Stone has long been destroyed, Doctor Strange suggests using a memory-erasing spell to make everyone in the world forget Peter Parker. However, Peter insists that his close friends, girlfriend, and aunt should still remember him. His constant interruptions and changes to the spell cause it to spiral out of control, forcing Strange to contain it. He then asks Peter if he had simply tried calling the school to appeal, which makes Peter realize he hadn't even considered that. He rushes to intercept an MIT

admissions official before her flight, but during their conversation, Doctor Octopus suddenly appears.

This installment features villains from previous Spider-Man films, including Doctor Octopus (Alfred Molina), Green Goblin (Willem Dafoe), Electro (Jamie Foxx), Sandman (Thomas Haden Church), and Lizard (Rhys Ifans), spanning the versions played by Tobey Maguire and Andrew Garfield. Because the characters come from different universes, each villain recognizes a different Spider-Man. Doctor Octopus, Sandman, and Green Goblin know Tobey Maguire's version, while Electro and Lizard recognize Andrew Garfield's. These differences create many humorous and interesting interactions between characters. As Doctor Strange explains, these variations arise from the multiverse: while the general structure remains similar, many of the details differ significantly. The reason all three generations of Spider-Man appear together in *Spider-Man: No Way Home* (2021) is that Ned accidentally acquires Doctor Strange's sling ring. While calling out for Peter Parke, he unintentionally opens a portal to the world of the second Spider-Man, played by Andrew Garfield. Trying again, he opens a second portal this time to the world of the original Spider-Man, played by Tobey Maguire. Due to the distinct character settings across each generation, their interactions are especially humorous. For instance, both the youngest Spider-Man and the second Spider-Man are fascinated by the fact that the original Spider-Man can shoot webs directly from his body. They even jokingly ask if webs can shoot from other places. When discussing relationships, the second Spider-Man simply states that he's single an understated response that holds deeper meaning for those familiar with his storyline. Eventually, the unstable magic spirals out of control, ripping open the fabric of the multiverse. As a result, everyone who knows Peter Parker across all universes begins to converge into this one. To prevent disaster, Peter asks Doctor Strange to cast a final spell one that will make everyone in the world forget who Peter Parker is.

In Spider-Man's world, his power often triggers unintended and far-reaching consequences. Though Doctor Strange's magic can restore order, the cost is steep, it requires erasing all memories of Peter Parker, both the good and the bad. (30:00) When genetically altered powers result in uncontrollable outcomes, the ultimate price may be losing those closest to us: our lovers, our friends, and everything that connects us to who we were. Spider-Man is a uniquely interesting superhero. Throughout the film series, he frequently makes mistakes—some so serious that only higher-level heroes like Iron Man can help fix them. In *Spider-Man: No Way Home* (2021), when Doctor Strange prepares to cast the spell that will make the entire world forget Peter Parker, Peter promises he will find Ned and MJ again and rebuild their relationships. However, after everything has settled, he notices the scar on MJ's face and ultimately decides to disappear from their lives to avoid causing further harm. Determined to fight crime alone, Spider-Man accepts solitude as his path. Perhaps, in this universe, Gwen Stacy (Emily Jean Stone, *The Amazing Spider-Man*)) will eventually appear to take on the role of his companion.

In *No Way Home* (2021), after Spider-Man's true identity is exposed, Peter Parker, desperate to return to a normal life, seeks help from Doctor Strange. Their plan backfires, opening the multiverse and plunging everything into chaos. Peter is then forced to confront himself and rediscover what it truly means to be Spider-Man. This meaning is deeply tied to our understanding of genetic modification how to face such power with the right mindset and how to use it responsibly. Peter's mission this time is to *heal* the villains—to cure them and send them back to their own universes as reformed individuals. Traditionally, the hero-villain dynamic is one of life-or-death conflict. Yet here, they coexist in the same space, working together on possible cures. Peter is no longer just trying to save the people he loves or innocent civilians he's trying to save those who wish to kill him. Peter is still just a high school student about to graduate, unsure whether he'll even get into college. Young and inexperienced, his

life is just beginning, yet his good intentions, hesitation, and fear have inadvertently torn open the universe. His world and his relationships lie in ruins. How can a boy who barely understands himself take on the mantle of a hero? How can he carry a weight he was never prepared to bear? Losing a loved one has always been a threshold that Peter Parker—Spider-Man—must cross on his path to growth. But this time, it's different. This time, he isn't alone. He has mentors who care for and guide him—two of them, in fact. In *No Way Home* (2021), the filmmakers bring together all three versions of Peter Parker to allow them to share their pain, heal one another, and offer support. Through this, the film gives deeper insight into the emotional journeys of Tobey Maguire's and Andrew Garfield's Spider-Men, helping lighten the weight of grief and prevent it from consuming them. Try to be better, says Tobey's Peter to Doctor Octopus—a line that expresses the best way to face loss. Seeing Tobey Maguire's Spider-Man reunite with Alfred Molina's Doc Ock, even for just a brief exchange, becomes a cinematic milestone, one of the reasons for the thunderous applause in theaters. (Spencer)

Still, healing from a wound takes time and care. Only through personal reflection can one shed the hardened scabs of pain. The ending of *No Way Home* (2021) is undeniably heavy, but the suffering transforms Peter, making him braver. His choices hiding his feelings, sacrificing his relationships—show that he's finally ready to bear the cost of being a hero. Though his heart is filled with regret and sorrow, he is no longer alone on this journey. He continues to believe in the power of kindness. The coffee in his hand, warm and steaming, becomes a small comfort to his deeply scarred heart—fuel for the next time he swings through the city with renewed strength. Fathers were significant figures in these men's lives and were role models for demonstrating masculinity practices (Cleary 01), Fathers lead the boy out from under the mother's protective shelter, so he could embark on adventures and journeys, setting him on the path of adventure. From a psychological perspective, Peter Parker's journey reflects the classic stages of the boy, the son, and finally, the hero. From the very beginning,

Peter has yearned to prove himself, a need shaped by his upbringing and the absence of strong male role models in his life. The third Spider-Man trilogy (*Homecoming*, *Far From Home*, *No Way Home*) centers on Peter's constant tug-of-war between helping others and maintaining a normal life. He wants to do good, but he doesn't want to be a superhero, after all, he's just a high school student. As Dr. Strange told him, "Sometimes I forget... you're just a kid." (*Spider-Man: No Way Home* 32:06) Peter simply wants to live a normal life, but he's destined for something far from ordinary. "With great power comes great responsibility." (*Spider-Man: No Way Home* 01:27:46)

As for the responsibilities coming with the acquisition of genetic mutation, the Spider Man faces two primary calls: (1) to use his abilities to benefit others by solving crimes, by protecting others, and by saving lives, and (2) to learn how to control his superpowers to avoid causing harm to others. Although Peter, who possesses spider-like abilities, never uses his powers to take revenge on classmates who often bully or play pranks on him. However, his presence triggers mixed reactions, as depicted in the section (*Spider-Man: Homecoming* 00:16:35-00:17:40), where the local people's praise and suspicion reflect society's complicated attitude towards the existence of superheroes. Some express admiration and gratitude toward him, viewing him as society's guardian and a source of security, while others harbor skepticism and antipathy, questioning his behaviors and true identity. These social reactions reflect the diversity of audience's attitudes towards the existence of a superhero in real life, with some admiring his heroism while others feeling uncomfortable with his possible deviation from social norms.

Spider-Man, due to his recklessness, causes a ferry to be split in half by the Vulture. The crisis is ultimately resolved with the intervention of his mentor, Iron Man, who appears like a father figure. However, as a result of this incident, Iron Man also takes back the Spider-Man suit. At first, Peter's desire to become a superhero stemmed from curiosity and admiration.

But over time, he becomes increasingly eager to prove himself, seeking validation from Iron Man. This growing need for validation reveals how Peter's new powers intensify his struggle to define his self-worth and identity. These challenges not only test Peter's physical abilities but also force him to question how his new identity as a superhero intersects with his personal need for belonging and self-worth. This marks an important step in his journey to maturity one that goes far beyond just having extraordinary powers. This dynamic gradually develops into a relationship that mirrors that of a father and son. Typically, children try to gain their parents' approval through academic performance, achievements in various areas, or by establishing and following daily routines. This affirmation reassures them that they are on the right path. Naturally, they begin to imitate their parents' behaviors to gain further recognition and trust, such as being entrusted with responsibilities, which marks the beginning of becoming independent. According to Weinzapfel-Hayden, primary goal as a parent has always been to raise strong, independent children is always being their biggest cheerleader. Make sure from the earliest stages of life they know you support them in their successes and their failures. Encourage them to take risks and support them when they're scared. Being there to provide the emotional support they need will help them feel more confident in their ability to take life on as they mature. As children grow, they transition from seeking parental trust to confidently acting on their own. Whether this transformation is successful depends greatly on the level of autonomy granted to the child and the degree of parental interference. The modern psychologist Alfred Adler believed that a newborn baby is weak, vulnerable and dependent on others to survive. For this reason, every individual who has just arrived in the world carries feelings of inferiority, vulnerability and inadequacy. (69) Out of worry and concern, parents often repeatedly caution their children with words like That is dangerous or Do not do that. To adolescents, however, such warnings can be interpreted as a denial of their capabilities. Teenagers, who are navigating the turbulent waters of identity confusion, deeply crave

validation from their parents. As a result, they often swing between the feelings of inferiority brought on by repeated warnings and the inflated confidence that comes from trying to prove themselves.

When Iron Man notices Spider-Man's self-doubt, he's reminded of his own internal struggles. Drawing from his past experiences, he offers Peter guidance, helping him recognize the insecurity he hadn't even realized was shaping his actions. Superheroes aren't defined by their suits, weapons, or even their powers. What truly makes a superhero is the courage to stand up for their beliefs and fight to the end with unwavering conviction. That is the essence of heroism. "If you're nothing without this suit, then you shouldn't have it." Tony Stark. (*Spider-Man: Homecoming* 01:22:33) Tony's words to Peter are direct: if you rely on the suit to feel powerful, maybe you were never that powerful to begin with. This line strikes at the heart of Peter's main issue—his lack of self-confidence. True strength comes from being honest about one's abilities, believing in what one can achieve, and committing to that belief. As Alfred Adler posited, personality develops through overcoming inferiority and striving for excellence. Only by breaking through personal limits emerging from the cocoon can the caterpillar transform into a butterfly. Despite having a genius-level intellect, Peter doesn't stand up to school bullies. Even with superpowers, he never retaliates against those who harass him. Instead, he becomes obsessed with proving himself to Iron Man, leading to disastrous consequences. In one iconic scene, Peter is trapped under heavy debris and begins to panic, believing it's the end. But then, recalling Tony Stark's words, he realizes he doesn't need validation from anyone not even a suit to define who he is. His power, as well as his struggles, has always stemmed from his self-belief, not from genetic modification.

Spider-Man helped establish one of the Marvel Universe's most important points of difference. He's a hero with as many flaws as strengths. His humble background and everyday problems, rather than god-like perfection, set Marvel's roster apart from their DC

counterparts. These heroes are relatable. (Jones) Spider-Man's life isn't just about battling supervillains. He has people he loves, financial struggles, and a demanding boss. As writer Dan Slott once said: "He's the guy you know." (Qtd. in Ernst) What fans love most about Spider-Man is that when Peter Parker takes off the suit, he's just like us, a regular student with a pile of problems to sort through. He's grounded in the realities we all face and caught in dilemmas we all recognize. Yet, despite that, he's been gifted with extraordinary power and is forced to carry the weight of saving the world. As Dan Slott puts it: "If there's anything in your life that's going to make you a superhero, then you're going to become Spider-Man. You're going to screw it up the way you normally would screw it up, except now, you're going to do it with superpowers. And that's going to give you super problems." (Qtd. in Ernst). This quote perfectly captures the core of Spider-Man's appeal. Peter Parker is not flawless far from it. He makes mistakes, often in deeply human ways, but now those mistakes have amplified consequences because they're made with power. Spider-Man doesn't exist apart from the everyday teenager; rather, he *is* the everyday teenager, only one with extraordinary abilities, struggling to balance them with normal life. That's what makes him iconic: not perfection, but relatability. The brilliance of the Spider-Man character lies in how it tells the story of a hero who was not born a hero, but rather someone who gradually transforms, growing from a child into a teenager, and eventually into a hero. Like us, he faces everyday struggles: the desire for true friendship, the need for understanding from family, and the burden of responsibility. In *Spider-Man: Homecoming* (2017) and beyond, we see that Peter Parker, the teenager tasked with saving the world, does not always feel ready for heroism. He experiences fear, self-doubt, and moments when he wants to give up. But once he confronts and overcomes these inner fears and begins to understand the true weight of his responsibility, he starts to grow into the hero he was meant to be.

Looking more closely at the film's narrative, Spider-Man's mission is not only to save

the world it is also to save himself. A large part of Peter's journey is internal: learning to let go of his fear of others' judgments, embracing his true self, and developing a clear sense of right and wrong. Only then can he fully realize his potential. Spider-Man, in his most relatable form, reminds us that heroes are also ordinary people. Like many of us, he feels fear and longs for love. This portrayal reflects a universal truth that even those with great power are still human at heart. What matters is not being fearless, but having the courage to face one's fears and discover one's place in the world. We must recognize that heroes, too, have vulnerabilities. Being a hero does not mean being perfect it means rising above fear, growing through hardship, and finding the strength to stand up again and again. That ongoing process of self-confrontation and self-growth is what ultimately reveals the true spirit of a hero.

As the successor to "Iron Man/the father," (Evangeli) young Spider-Man must step out from the warmth and protection of home particularly from Aunt May's care and bear the weight of expectations to surpass his mentor. This is not just a rite of passage into adulthood, but a thorn-covered path of personal transformation. As a teenager, Peter is learning to become a hero while simultaneously navigating cultural expectations of masculinity grappling with the social rules, norms, and ideals that define what it means to "be a man." (Evangeli) Through this journey, he sheds his childhood skin and gradually grows into a son with shoulders strong enough to carry responsibility. Tragically, Iron Man dies in heroic sacrifice, and Doctor Strange though also based in New York is too preoccupied with his own affairs. Peter is left adrift, like a kite with a cut string, forced to improvise and adapt while barely holding himself together in the public image of a hero. Along the way, he comes to realize that growing up isn't just about physical maturity it's also about emotional and psychological resilience. Only then does Aunt May's iconic line, "With great power comes great responsibility," (*Spider-Man: No Way Home* 01:27:46) begin to take root and find real meaning through Peter's lived experience.

The theme of power and responsibility has always run through the *Spider-Man* series long before it was ever spoken aloud—and has manifested in different ways throughout. In the first film, for instance, the focus is on understanding the consequences of power. Peter transitions from a desire to be seen and recognized to learning to let go and act within his limits. The responsibility of the first film lies in the subtle, careful use of power like a baby learning to walk, mastering control to avoid stumbling or, worse, losing control. This is the first crucial gear every hero must polish and cultivate before their journey can truly begin. This early lesson is one that Tony Stark values deeply. The Ultron incident left him not only with guilt but with a profound understanding of the weight of power. His fears about Peter's immaturity and potential to cause similar disaster lead him to say the now-iconic but harsh line "If you're nothing without this suit, then you shouldn't have it." (*Spider-Man: Homecoming* 01:22:33) It is a stern rebuke yet loaded with expectation—an evolved version of "With great power comes great responsibility." In the second film, Peter, reeling from the loss of his father figure, is battered by emotional turbulence on his journey of growth. While the theme of power and responsibility continues, it now delves deeper into the idea of a heroic calling, which becomes the second essential gear in Peter's transformation from son to hero. Expanding on this, and drawing from psychologist Carol Pearson's perspective, Peter, having lost his role model, enters the archetype of the orphan. This doesn't mean he is literally homeless, but that he clings too tightly to comfort and safety, anchoring his life in joy and simplicity. At times, he naively rejects his calling simply to avoid the pain and responsibility it brings.

In *Far From Home* (2019), Tony Stark's glasses serve as a potent cinematic symbol. They are not just a piece of inheritance, but a burdensome legacy visibly sleek and powerful, yet emotionally suffocating. The weight they represent nearly drowns Peter. This symbolism foreshadows why the third film's theme is centered around *forgetting*. With his identity

exposed, Peter no longer has the luxury of secrecy. He must now live up to the expectations of his loved ones and endure the moral scrutiny of the world. In a way, Tony's death marks the end of Peter's innocence, and shadows gradually creep into his once-simple world. In this light, Peter's desire for the world to forget his identity is not surprising. It reflects a deeper psychological yearning—creative, personal, and painful. Throughout the series, Peter has to wrestle not only with villains, but also with the expectations of others and the pressure he puts on himself.

Taken together, the second and third films form a natural narrative and emotional continuation—not only because they are close in time, but because they chart Peter's ongoing psychological development. As Pearson suggests, by the end of *Far From Home* (2019), Peter begins to accept responsibility voluntarily. Even though he fears loss and carries emotional scars, he still takes a leap of faith, trying to make up for the consequences of his earlier innocence. This, too, is part of becoming a hero. At this point, Peter has successfully completed the orphan stage of his journey but the end of the hero's path remains distant, with many more trials ahead. The next stage, the warrior phase, follows the orphan and represents the moment when the called hero must face the temptations of power. This is the very same internal conflict that plagued Tony Stark throughout his life.

Referencing Carl Jung's psychological framework, scholar Carol Pearson compares the path of personal growth to the hero's journey. she outlines a series of archetypes through which individuals typically progress, the Innocent, the Orphan, the Warrior, the Wanderer, the Martyr, and finally, the Magician, who represents wholeness and integration, someone who lives with balance, wisdom, and grace, embracing both joy and suffering. (Pearson) Importantly, the hero's journey in real life often unfolds not in a straight line, but in spirals or cycles, with individuals revisiting and reworking different stages as they grow. Indeed, heroes may possess superpowers, but they are not made of stone. To learn to control power and carry

its burden is a profound human endeavor. A hero's response to destiny is not immune to emotion or vulnerability. This is especially true for Peter, who, in his grief, must resist the pull of vengeance, anger, and fear—an internal struggle far more challenging than it appears.

In *No Way Home* (2021), Peter stands at a moral and emotional crossroads. Every choice he makes even a fleeting moment of blind rage could send him spiraling down the wrong path. One step in one direction leads to heroism; another, to chaos and unchecked retribution. From this tension, *No Way Home* (2021) develops two deeper sub-themes: first, the conclusion or at least transformation of the hero's journey, and second, the deeper question of what it truly means to be a hero. Following from the previous discussion, even after Peter unleashes his rage on the Green Goblin, the weight of his accumulated grief only continues to grow—never diminishing. Though his anger grants him a fleeting sense of control and safety, it offers no peace, echoing Tony Stark's own psychological turmoil in *Iron Man 3*. As one of the older Spider-Men warns, killing all the villains would only leave an empty void. This resonates with Carol Pearson's insight: the dragon-slaying model of heroism is a performance of masculinity, but one that ultimately fails to bring peace. It cannot solve war or famine, and it traps the hero in the paralyzing gaze of an unattainable ideal immobilizing him while simultaneously alienating him from his own self.

This reveals a deeper truth: the knight who throws everything away in pursuit of noble sacrifice may well end up in a state of deep depression and loneliness. Deified heroes are often grotesquely distorted, having carved away their humanity in order to squeeze into the mold of heroism. In other words, the hero's solitude stems not only from anonymity and misunderstanding, but also from self-repression and abandonment. Having examined the trajectory of the hero's end, we return to the essence of heroism—once again, through the lens of Peter's confrontation with the Green Goblin. It is in that pivotal moment, when Peter is stopped by his predecessors, that he pulls himself back from the brink of vengeance. While

this act does not necessarily mean he has fully passed the “warrior” trial (Pearson), it does affirm that his hero’s journey can continue. He does not succumb to darkness; he does not become the villain.

As for the true nature of heroism, within the Marvel Universe, Iron Man remains its clearest embodiment. He dives into fear without losing his individuality. With a single snap, he restores balance to the world. This moment represents the “Magician” phase in Pearson’s framework the hero who transcends the self, accepts destiny, and still preserves his essence. By contributing uniquely to the collective good, he alters the fate of the many. In this way, the essence of a hero lies not in brute force or perfection, but in the struggle to remain human, to resist the seduction of power, and to give meaningfully of oneself despite the pain, and because of it. It is deeply moving to realize that this is exactly what Aunt May was trying to teach Peter before her death that the essence of heroism is not about perfection, but about using one’s power to make a difference in the world. Success or failure is something only visible in hindsight; what truly matters is the intent and the effort. In this light, the core of being a hero is not determined by age, superpowers, scientific enhancement, or even self-sacrifice. Rather, it lies in the simple but powerful choice to be human to treat others with kindness, to hold onto hope, and to act with compassion, even when facing danger, malice, or fear. If one can do that, then like Tony Stark, who spent half his life wrestling with the ghost of the warrior archetype it is still possible, even at the very end, to understand the fluid beauty of life. To burn brightly, not just for others, but also for oneself.

Returning to the ending of *Spider-Man: No Way Home* (2021), Peter’s choice to be forgotten signifies his entrance into the “Wanderer” phase of the hero’s journey the fourth stage in Carol Pearson’s archetypal model. This stage marks a solitary passage into the unknown, where there are fewer external constraints but greater internal challenges and opportunities. For Peter, it becomes a time to rediscover who he truly is, especially the essence

that lies beneath the Spider-Man mask. That core identity more than any superpower or costume—is what defines him, and it is the lasting legacy left behind by both Aunt May and Tony Stark.

In the end, saving others is never easy, but learning to carry the fractured pieces of one's self after loss is even harder. This is why the film resonates so deeply. Like Peter, we often carry responsibilities and expectations, constantly juggling the needs of others with our own wellbeing. The question remains: how do we continue to care for ourselves while holding space for those who rely on us?

The villains across the *Spider-Man* films also reflect this tension between power and personal struggle. Norman Osborn, the Green Goblin, gains superhuman strength, speed, reflexes, endurance, and regenerative abilities through a biochemical enhancement meant to improve the human body and mind. However, the experiment drives him mad, fracturing his psyche and awakening the violent “Green Goblin” persona born from childhood trauma. He turns to military tech to assert control over New York's underworld, seeing Spider-Man as a threat to his dominance (*Spider-Man*, 2002). Doctor Otto Octavius, or Doc Ock, begins as a kind and brilliant scientist. But after a failed nuclear fusion experiment causes an explosion that damages the inhibitor chip in his mechanical arms, the AI in the arms hijacks his body and mind. In a moment of clarity, Otto regains control of himself and heroically sacrifices his life dragging the unstable reactor into the river to prevent catastrophe, seeking redemption through self-sacrifice (*Spider-Man 2*, 2004). Flint Marko, known as Sandman, turns to crime out of desperation to pay for treatment for his terminally ill daughter. After escaping prison to see her, he accidentally falls into a particle accelerator during an experiment, which fuses his body with sand, allowing him to shapeshift and reform at will (*Spider-Man 3*, 2007). Dr. Curt Connors, also known as the Lizard, is transformed by a failed experiment intended to regenerate his lost arm. However, the serum drastically alters his mind, and he plots to turn

all of humanity into lizard-like beings. As the Lizard, he gains immense strength, speed, and agility, equal to or even surpassing Spider-Man's (*The Amazing Spider-Man*, 2012). Max Dillon, who becomes Electro, is a brilliant but socially invisible man. After being saved by Spider-Man during a battle with the Rhino, Max becomes obsessed with the idea of being seen and admired. An accident involving electric eels mutates his body into a living electrical conduit, allowing him to manipulate and become pure energy (*The Amazing Spider-Man 2*, 2014). Each of these villains is not evil by nature but shaped by circumstance by trauma, isolation, or the consequences of power used without care. Through Peter's journey to heal and humanize them, the film reframes villainy as an extension of suffering, and heroism as an act of empathy. This is what *No Way Home* (2021) ultimately illustrates: that being a hero is not about defeating enemies, but about reaching toward understanding even when it hurts. For many of the villains, extraordinary superpowers function less like gifts and more like curses or afflictions. When individuals already struggling at the fringes of society are suddenly imbued with terrifying abilities, their desire for power often intensifies—not simply to control others, but to escape their own sense of powerlessness. They may mistake this sudden surge of strength as a guiding light to dispel loneliness. As such, when the concept of genetic modification is misapplied, it can lead to fear, instability, and devastating consequences.

What makes *Spider-Man: No Way Home* (2021) particularly compelling is its continual effort to blur the lines of binary opposition. The film gives its villains the rare chance to voice their long-silenced grief, allowing their pain to be seen and heard. In doing so, it offers a new lens through which to understand how enhanced abilities when not accompanied by proper ethical grounding can spiral into destruction. This narrative choice also points to a broader question: how should the power of genetic enhancement be used, and who gets to decide what constitutes correct use? The Marvel series has long been a site of tension between emotion and justice, but *No Way Home* (2021) reaches a new height by suggesting that justice is not a

promise made lightly it is a burden that requires profound emotional readiness to endure loss. The strength of a hero is not only in surpassing human limits, but in having the capacity to bear suffering with resilience and grace, which enables a hero to lift the hammer of justice and sustains their belief in the value of what they protect.

In literature, genetic modification is often imbued with significant social meaning. In superhero narratives, it not only grants characters their extraordinary powers, but also functions as a powerful symbol of ethical responsibility and societal consequence. The origin stories of many superheroes are closely tied to scientific experiments or genetic mutations. Yet these mutations bring more than just power—they come with immense moral weight.

In the Marvel Universe, Peter Parker's abilities stem from a genetic transformation, compelling him to take on the burden of protecting society. In *Spider-Man: No Way Home* (2021), the narrative pushes this even further by grappling with the conflict between justice and sacrifice. The film suggests that true heroism lies not in strength itself, but in the willingness to shoulder responsibility and make painful, necessary choices. This genre of literature reflects the societal implications of genetic modification it not only alters individual destinies but also reshapes the value systems of entire societies. Within these narratives, genetic modification is often imbued with the concept of choice: how individuals wield such technology to define their identities and their relationships with the world around them. For example, Steve Rogers (Chris Evans), also known as Captain America, is not born a strong man; his exceptional physical abilities are the result of the Super Soldier Serum. However, his sense of justice does not come from the serum itself; it stems from his inner moral convictions. Thus, genetic enhancement in these stories is not simply portrayed as a tool for amplifying the body, but as something inextricably linked to social values. It serves as a reminder of the importance of using technology responsibly to promote the betterment of society.

Moreover, such texts often explore the tension between power and responsibility through

the lens of genetic engineering. When technology surpasses the natural limits of humanity, it holds the potential to either oppress or liberate. The *X-Men* series, for instance, uses mutants as a metaphor for marginalized communities, highlighting the prejudice and fear directed toward those who are different. It underscores that technological advancement is not solely a question of personal ability, but also of how society embraces or rejects difference. These stories reflect contemporary anxieties about genetic modification: if such technologies are monopolized by a privileged few, will they exacerbate social and class inequalities? Yet, these narratives also make it clear that technology itself is neither good nor evil. The true moral weight lies in its application when we endow technology with social purpose, it becomes a tool for justice and equality.

In conclusion, genetic modification in literature is not merely a plot device for creating superheroes; it is a modern social parable. These stories urge us to consider how technological advancement must be paired with moral awareness and a sense of responsibility. Ultimately, the value of any technology lies in the choices made by its users. Only when we are guided by ethical consciousness and a commitment to social good can we ensure that genetic modification advances in a direction that truly benefits humanity.

Chapter III: X-Men: Mutation as a Metaphor for Marginalization



Fig. 3. In the Senate *X-Men* (06:50).

Senator Robert Kelly (Bruce Davison) is pushing for the enactment of the Mutant Registration Act.

One of the core elements in the X-Men story is the journey of the mutants from facing widespread discrimination to gaining societal acceptance and respect. However, current public readings of the narrative often incorporate various metaphors, such as gender, race, skin color, and sexual orientation (Corley, Bedrosian, Darowski and Miller). In this chapter, we will go through the main plotlines of several X-Men movies, exploring the X-Men's transition from being ostracized to being accepted and respected. Their journey is not only a series of battles but also a struggle of the soul. Through scenes depicting the characters' identities in society

and their confrontations with external challenges, the narrative illustrates a profound transformation of the mutants from being outcasts to being part of the in-group. This transformation reveals the possible reasons for real-world human discrimination against those who carry mutant genes and explores possible actions to dispel human biases and foster mutual respect among different groups of people.

Here are specific examples from the X-Men movies to illustrate this transformative journey. First, in *X-Men* (2000), Senator Robert Kelly (Bruce Davison) plans to enact the "Mutant Registration Act," (06:50) which mandates all mutants to disclose their identities publicly. Witnessing this outcome, Erik Lehnsherr, a.k.a. Magneto (McKellen) feels disappointed in humanity and decides to take threatening action against this legislation. (06:00-09:30) Besides, Wolverine (Hugh Jackman) is considered a threat due to his claws and regenerative abilities. In a compelling sequence where he escapes pursuit, he not only faces physical harm but also encounters rejection and is perceived as a monster by humans. Ultimately saved by Professor Charles Xavier (Patrick Stewart), Wolverine joins the X-Men (11:00-26:00). Secondly, in *X-Men2* (2003), Colonel William Stryker (Brian Cox) leads an assault on Professor Xavier's school to build his version of Xavier's mutant-tracking computer, Cerebro.(36:22-43:50) Stryker wants to destroy every mutant on Earth, forcing the X-Men to team up with the Brotherhood of Mutants to stop Stryker and save the mutant race. Thirdly, in *X-Men 3: The Last Stand* (2006), a drug that can "cure" (1:13:52) mutant abilities is developed, sparking controversy among the mutants. Some mutants object to the drug, fearing loss of their advantages, leading to a split within the X-Men community. Fourthly, in *X-Men: First Class* (2011), which explores Magneto's (Michael Fassbender) origin, his family's tragic fate during World War II is uncovered and this fuels his hatred towards humans. Finally, the storyline of *X-Men: Days of Future Past* (2014) depicts a dystopian future where Sentinel robots chase and attack the mutants, reflecting the fear and hatred towards the mutant

community, as long harbored by humans.



Fig. 4. X-Mansion and Xavier Institute *X-Men 2* (06:50).

Colonel William Stryker (Brian Cox) leads an assault on Professor Xavier's school to build his version of Xavier's mutant-tracking computer, Cerebro.

These a forementioned scenes well illustrate humans' suspicion and distrust toward the mutants in various aspects. Most notably are (1) people's deep-rooted tendency to fear and discriminate against those who deviate from the norms they live by and (2) their hesitations in breaking through the ethical dilemmas on the issue of mutants' rights and societal coexistence. To see from the perspective of genetic evolution, the X-Men stories also showcase a unique view on the existence of large-scale genetic variations. The abilities of the mutants prompt our contemplations on the essence of evolution in two respects: First, the potential issues arising from extraordinary skills within the human population, and secondly the profound consideration of the moral impact of genetic diversity. Let's take *X-Men: Dark Phoenix* (2019) as an example. The narrative delves into the exploration of large-scale genetic

mutations through the story of *The Phoenix* (2019). As her abilities surpass those of ordinary mutants, story, the film portrays the extreme power of mutant abilities and the potential impact of such immense power on individuals and society. It becomes the most threatening existence, prompting the audience to reflect deeply on societal genetic diversity and multi-species coexistence. Furthermore, through Phoenix's highlights issues such as individual self-control, societal panic and unease, and ethical dilemmas related to genetic mutations, guiding viewers to contemplate the institutional and value-based responses to genetic mutations in society.

In *X-Men* (2000), this social and psychological tension is more clearly revealed. The evolution of mutants is depicted not only as a biological phenomenon, but as a potential counterpart and challenge to human genetic development reflecting the deep-seated anxieties and self-justifications within human society when confronted with the presence of the other species. This idea evokes theories about the origins of human evolution, particularly those that involve genetic mutations and the interactions and interbreeding between *Homo sapiens* and Neanderthals. In recent years, more and more studies have pointed out that a significant portion of modern human DNA comes from genetic exchanges and mixing with Neanderthals and other ancient human relatives (Blakemore, Choi and Wei-Haas). These theories suggest that human evolution is not a simple, linear process, but rather the result of diversity and a complex network of genetic interactions. When we see mutants portrayed as the next stage in human evolution in the X-Men series, this narrative in many ways echoes the real-world exploration of genetic diversity and adaptability and challenges the social biases that often arise in response to perceived difference. The character of Jean Grey strongly embodies this concept: her immense powers are closely tied to the mysterious X-gene, symbolizing the next stage in mutant evolution within the X-Men universe. Meanwhile, Magneto's character highlights a different dimension of this evolutionary fear, his deep-rooted belief that humanity instinctively fears what it does not understand (Notenboom), especially the emergence of

mutant powers. To confront this fear and assert mutant superiority, Magneto forcibly transforms a human senator into a mutant, revealing his conviction that mutants represent the future of evolution and that those who resist change must be assimilated. This act reveals Magneto's conviction that mutants represent the next phase in human evolution and that those who resist change must be assimilated into the new world order.

On the other hand, X-Men also explores humanity's desire for immortality and regeneration, especially through the character of Wolverine. While his adamantium skeleton is artificially implanted, Wolverine's regenerative healing factor is innate. Like the self-healing capabilities of human stem cells, Wolverine's power is an accelerated version of that process (Isaak). This healing factor repairs external injuries and maintains internal cellular health, delaying aging and allowing him to appear much younger than his actual age. It symbolizes a deep human longing to overcome death, serving as a metaphor for immortality. If properly harnessed, such an ability could represent a profound advancement for humanity. However, Wolverine's powers also raise a fundamental question: if humans could acquire this ability, would it serve to benefit society, or would it instead provoke greater fear and exploitation? Such issues as overpopulation leading to environmental destruction, changes in the biosphere, and a decline in species diversity (Kolkowska) are critical dilemmas we must consider.

Another key symbolic element in the X-Men narrative is Magneto's helmet, designed to block Professor X's telepathic abilities. This object reflects the ongoing ideological clash between two opposing visions. While Magneto seeks domination and envisions a world in which humans are forcibly integrated into mutant society, Professor X advocates for peaceful coexistence. Their conflicting views represent two sides of the same dilemma: the desire for change and the fear of it. Magneto's aggressive methods starkly contrast with Xavier's commitment to understanding and unity. Ultimately, the X-Men universe encapsulates

humanity's broader struggle with transformation, fear, and the unknown. Magneto's path emphasized mutant supremacy and enforced evolution, while Professor X dreams of a world in which both humans and mutants live in harmony. This duality reflects broader ethical concerns surrounding evolution, new genetic advancements, and the societal implications of scientific progress. Magneto's ideology and the logic behind his actions stem from a consistent belief: that discrimination and persecution against mutants are rooted in humanity's fear and prejudice. As a result, he rejects the notion of peaceful coexistence. Instead, he advocates for mutant dominance and the overthrow of existing power structures, believing that true safety for mutants can only be achieved through control and force. In the X-Men stories, Magneto wants to turn powerful people the elite into mutants. He believes that doing this would help change how the world works. Right now, the elite control money, media, and politics. But if they became mutants, they would start to see things differently. They would no longer be outsiders to the mutant group. Instead, they would be part of it. This would change the power structure, because the people in charge would also need to protect mutants like themselves. Another reason Magneto wants to do this is to stop discrimination. Mutants are often treated unfairly and seen as dangerous by humans. But if some of the elite became mutants, they would not want to hurt their own kind. As Magneto sees it, people do not oppress those who are like them. By making mutants part of the ruling class, Magneto hopes to create a world where mutants are not hated or feared anymore. Lastly, Magneto believes that mutants are the next step in human evolution. He thinks humans are becoming outdated, and mutants are the future. By forcing important people to become mutants, he wants to speed up this process. He sees this as a way to make sure mutants will one day lead the world, not just survive in it.

In contrast, Professor X envisions a different path: one built on empathy, dialogue, and mutual understanding. He believes coexistence is possible. Yet to Magneto, human nature is immutable incapable of real change and only the absolute control of power can secure the

future of mutantkind. Magneto's approach, while extreme, can be analyzed in the broader context of social transformation and elite theory. Since the 19th century, the formation, operation, and internal structure of elites have been central to the field of social sciences. Historically, nobility and the upper classes have held central positions in society. From the late medieval period to the early modern era, members of the aristocracy functioned as societal elites. Initially, social advancement depended heavily on birth and wealth. Over time, however, this began to be supplemented and, in some cases, replaced by socially beneficial activities first through extraordinary military achievements that earned royal favor, and later, in more peaceful times, through literacy, intellectual success, or a career in the Church.

This shift made a significant contribution to the development of social mobility. In studying the nobility as social elites, researchers have traced both vertical and horizontal processes of mobility. As Attila Józsa notes in his review of László Zubánics's work on the nobility of 16th–18th-century Northeastern Hungary, the nobility was a class capable of engaging in socially beneficial activities due to their economic resources (123–134). Magneto's plan to forcibly transform the elite echoes this logic of structural transformation. By changing the biological and social identity of those at the top of the hierarchy, he aims to redefine the terms of power and force a new social contract, one in which mutants no longer exist on the margins but instead sit at the center of sociopolitical order.

Throughout the long arc of history, humanity has continuously sought to understand its future, grappling with the direction of evolution and the trajectory of fate. In *X2: X-Men United*, the existence of mutants prompts a fundamental question: Are they the next step in human evolution, or an entirely new species destined to replace the old? This question echoes through history like a refrain, surfacing at every major turning point in civilization. Evolution has never been a sudden rupture, but rather the accumulated result of countless subtle shifts. The mutant genome whether in physiology, intellect, or capability demonstrates potentials

unseen in the general human population. If Einstein's brain became a symbol of revolutionary advancement in science, mutants represent a broader evolutionary advantage. They possess heightened cognitive abilities, advanced perception, and in some cases, the ability to transcend physical limits traits long coveted in the human quest for excellence and societal progress.

However, society's relationship with differences is fraught with contradiction. Mutants, despite their extraordinary powers, are feared and persecuted. This reflects a pattern deeply embedded in history. The abolition of slavery in the United States drastically altered its social fabric, and President Abraham Lincoln paid for that shift with his life (National Archives). Similarly, mutants, in their fight for survival and equality, challenge entrenched systems of power leading to conflict, suppression, and even political assassinations. Is history destined to repeat itself? Does the tension between humans and mutants mirror the age-old struggle between oppressors and the oppressed? The storyline of the senator who dies shortly (*X-Men 2000* 1:02:07-1:03:14) after being forcibly transformed into a mutant illustrates the complexity of evolution and adaptation. Genetic mutation can yield great power, but often carries unpredictable costs. This mirrors many historical technological leaps such as the Industrial Revolution, which, while increasing productivity, also brought environmental degradation and labor exploitation. (Kiger) Mutants are not flawless beings, but rather symbols of evolutionary diversity.

In *X-Men: First Class* (2011), Sebastian Shaw (Kevin Bacon) tells Magneto (Erik) that "genes are the key that unlocks the door to a new age... a new future for mankind. Evolution." (05:16) Shaw's words highlight the idea of genetic optimization, suggesting that genetic variations can influence individual abilities, and that mutants might represent a higher order of human refinement and progression.. Ultimately, the mutant question is not about who replaces whom. It is about how humanity responds to evolution how we choose to face the future. At every crossroads in history, there are those who resist change, and those who

embrace new possibilities. Mutants are but one more step in the vast continuum of evolution. Their presence is not a threat, but an opportunity not merely a biological shift, but a leap in consciousness. They urge us to reconsider the definitions of humanity, and to reimagine the shape of the future. In *X-Men: The Last Stand* (2006), the conflict between mutants and humans not only reflects society's fear of difference but also demonstrates how genetic modification can reshape social order and individual choice. Genetic engineering is not merely a medical or scientific issue—it is deeply embedded in questions of ethics, power structures, and personal freedom. The film presents a nuanced exploration of genetic modification, ultimately offering an optimistic perspective: when used responsibly, such technology has the potential to promote equity and coexistence.

Genetic Modification and Social Acceptance: The Symbolism of Mutants. Mutants serve as a metaphor for society's evolving relationship with genetic diversity. In *The Last Stand* (2006), the character Beast holds the position of Secretary of State, symbolizing a growing societal acceptance of mutants and their inclusion in the political sphere. However, this inclusion remains conditional. Mutants are still largely perceived by humans as products of genetic mutation as aberrations in need of correction. This is exemplified by the development of a cure aimed at erasing mutant powers and restoring individuals to a so called normal state. This response mirrors real-world attitudes toward genetic modification, wherein traits labeled as abnormal are often targeted for correction rather than understood and embraced for their unique value. Genetic Modification as Choice: Must Respect Individual Freedom. In the film, mutants respond to the cure in two distinct ways. Some, like Rogue, choose to undergo treatment in order to grow closer to her beloved (1:35:01-1:35:34). Others, however, view the existence of the cure as an affront to their identity and an attempt to erase their existence and marginalize their rights. This tension reflects broader contemporary debates about genetic technologies: rather than imposing a singular vision of normality, such technologies must be

centered on individual choice and agency. From a social perspective, genetic engineering if applied ethically should expand the range of human possibilities, not become a tool for controlling or excluding those who are different. Rogue's decision to relinquish her powers is significant because it is voluntary, driven by personal desire rather than societal pressure. This act of free will represents the ideal direction for technological development: not uniformity, but autonomy. Ultimately, *The Last Stand* (2006) compels us to reflect on how emerging biotechnologies interact with core values like inclusion, diversity, and freedom. The film suggests that true progress lies not in erasing difference, but in empowering individuals to define what their differences mean on their own terms.

The Ethics of Technology: Genetic Modification Must Not Become a Tool of Social Oppression. The escalating conflict between mutants and humans in *X-Men: The Last Stand* (2006) ultimately leads to the use of a so-called cure as a weapon by humans, while mutants retaliate in an effort to defend their right to exist. This narrative confrontation reveals a critical issue: when technology is weaponized to suppress a specific group rather than promote social progress, it becomes a dangerous and ethically contentious force. Magneto's destruction and reconstruction of the bridge serves as a powerful metaphor for the dual nature of genetic modification—it possesses the capacity to both create and destroy. Although he moves the bridge with immense power, his actions are not directed toward harming the people on it. This ambivalence underscores the ethical tension inherent in advanced technologies. The film's conclusion provides a counterpoint to Magneto's radical approach: a mutant with the power of flight rescues his father, a moment that symbolizes the redemptive potential of technology when used to foster understanding and compassion rather than division and violence. Ultimately, *The Last Stand* (2006) does not condemn genetic engineering outright, but rather offers a central ethical proposition: genetic modification should be a matter of individual choice, not a tool of social conformity or coercion. Technological progress should reflect and

support diverse value systems, respecting the right of individuals to determine their own paths. In the film, Rogue chooses to relinquish her powers, while Beast remains active in political life both decisions are expressions of personal agency. This message supports a socially constructive vision of genetic engineering: it should not be used to eliminate difference, but rather to empower individuals with greater freedom over their own futures. In parallel, society must learn to coexist with technological advancement and ensure its application adheres to principles of ethics and justice.

In *X-Men: Days of Future Past* (2014), mutants continue to symbolize evolutionary progress, while society's reaction to them mirrors the human struggle to adapt to new and unfamiliar forces. The development of the Sentinel program is not merely a military initiative—it is the materialization of societal fear and anxiety over genetic evolution. William Stryker's plan targets not only existing mutants but also their potential descendants, revealing the depth of resistance and the impulse to control the future of human genetics. In *X-Men: Days of Future Past* (2014), the X-Men travel back to 1973 in an attempt to reshape public perception of mutants. At that point in history, society had not fully accepted mutants, but neither had it come to view them as an existential threat. William Stryker's proposal in Congress to intensify surveillance and control of mutants failed to gain widespread support, suggesting that the broader public had not yet turned against the evolutionary implications of mutation. However, once mutants began to be perceived as aggressors, public fear escalated, rapidly accelerating the implementation of the Sentinel program. This shift highlights a critical insight: society's capacity to adapt to change is often dictated more by circumstantial fear than by rational engagement with the realities of evolution. Acceptance or rejection of the genetically different is less about understanding and more about reaction an emotional response shaped by context rather than logic. The film thus illustrates a broader truth: fear, not knowledge, often drives policy. When emerging identities are framed as threats, progress

becomes more difficult, and technologies meant for coexistence are instead weaponized.

The film further explores themes of mutant self-identity and personal choice. For instance, Professor X, rendered paraplegic by injury, is offered a serum developed by Beast that allows him to temporarily regain mobility. However, the cost of this treatment is the loss of his telepathic abilities. This narrative moment reflects the broader social reality that progress often requires trade-offs and difficult decisions. Similarly, Rogue chooses to give up her mutant powers in order to physically connect with others an act that underscores how mutant existence should not be shaped by social pressure, but rather by the freedom of individual choice. The timeline of the Marvel Universe illustrates a gradual societal shift toward acceptance of genetic advancement. Spider-Man represents a more contemporary case of genetic mutation, while mutants symbolize a deeper evolutionary trajectory. From a historical perspective, society has moved from fearing genetic difference to understanding and, ultimately, accepting it as part of humanity's collective progress. With the continued development of science and culture, public attitudes toward genetic evolution have become more open and optimistic.

The story of the mutants is not merely a science fiction film premise, and it is a symbolic reflection of societal transformation. *X-Men: Days of Future Past* (2014) clearly asserts that mutation is not a flaw, but a product of evolutionary progress. While Stryker's plan seeks to treat mutation as a problem to be eradicated, the X-Men's mission demonstrates the inherent value and potential of genetic evolution. When society learns to acknowledge the legitimacy of mutant existence and accept the inevitability of genetic progress, it paves the way for a freer and more diverse future. The advancement of genetics not only transforms individuals but also reshapes social structures, from personal autonomy to collective identity and even to policymaking. *Days of Future Past* (2014) powerfully illustrates that genetic evolution cannot be halted. It is not a threat to society, but rather a driving force of forward motion. Through

an open attitude toward such evolution, humanity can truly embrace a more equitable and inclusive future.

In *X-Men: The Last Stand* (2006), the conflict between mutants and humans is not only a reflection of society's reaction to difference, but also a powerful exploration of how genetic modification technology can reshape social order and influence individual agency. The character of Beast, who serves as Secretary of State, symbolizes society's gradual acceptance of mutants into the political and social mainstream. Yet at the same time, the human effort to cure mutants through genetic intervention reveals how science can be misused to suppress diversity. Despite this, the film ultimately presents a hopeful vision: mutants demonstrate their ability to contribute meaningfully to society, not as outcasts but as valued members of the human community. The film traces the shift in human attitudes toward genetic modification from indifference to hostility a transformation that echoes historical patterns of discrimination. When mutants are first discovered, society responds with a degree of tolerance. However, once their existence is framed as a threat, technological means are deployed to control or eliminate them. This mirrors real-world patterns, where emerging technologies, if poorly understood, are often met with fear or rejection. However, as society adapts and gains deeper understanding, these technologies are eventually integrated and used responsibly.

In *X-Men: Days of Future Past* (2014), this theme is further amplified, as the plot focuses on humanity's fear and misunderstanding of genetic evolution. The development of the Sentinel program is driven by a desire to preemptively control future generations of mutants—extending the fear not just to present-day individuals, but also to their potential offspring. When Mystique (Raven) attempts to assassinate William Stryker, her act, though intended to protect mutants, inadvertently validates the government's fears and accelerates the weaponization of technology. This demonstrates how public opinion and technological policy can be shaped by pivotal historical events. Ultimately, by altering the past, the X-Men are able

to prevent a dystopian future and create a more inclusive society where mutants are no longer hunted, but accepted. These storylines underscore how technology influences social progress and the establishment of pluralistic values. The existence of mutants should not be seen as abnormal, but rather as part of the broader spectrum of biological evolution. Just as genetic science in the real world holds the potential to enhance human capability, so too should it be approached with the goal of empowerment rather than exclusion. Technological advancement must serve diverse value systems and uphold individual autonomy only then can it guide humanity toward a more equal and progressive society.

Genetic modification should not be viewed solely as a negative or dangerous force, but rather as a transformative technology capable of enhancing human potential. It can empower individuals to realize their unique qualities and help advance civilization. In *X-Men: The Last Stand* (2006), Rogue voluntarily chooses to give up her powers in order to pursue a more traditional romantic relationship, while Professor X briefly regains his ability to walk through a genetic serum. These narrative choices illustrate how technology, when ethically implemented, can offer personal freedom rather than impose coercive change. Furthermore, in *X-Men: Days of Future Past* (2014), Wolverine is sent back in time in a desperate attempt to change the course of history and prevent an apocalyptic future. At that point in time, society had not yet developed strong hostility toward mutants. Public perception remained suspended between curiosity and caution. However, when figures like Stryker manipulate media to portray mutants as threats, public sentiment quickly turns mirroring historical patterns in which emerging technologies were often met with fear and resistance. The film demonstrates that society's acceptance of new technologies is closely tied to the dissemination and framing of information.

By the film's conclusion, the successful alteration of past events prevents the development of the Sentinel program and creates a timeline in which mutants can exist more

freely and safely. This narrative outcome underscores a central message: genetic technologies should not be used as tools of oppression against any group. Rather, with thoughtful policy and ethical foresight, such technologies can be harnessed for the benefit of all. In this way, the *X-Men* films advocate for a vision of scientific advancement rooted in freedom, equity, and collective progress. Genetic modification should not be perceived as inherently negative or dangerous, but rather as a powerful tool for enhancing human potential. It holds the promise of enabling individuals to fully express their unique abilities and contribute meaningfully to the progress of civilization. In *X-Men: The Last Stand* (2006), Rogue chooses to relinquish her powers in order to pursue a more conventional romantic relationship, while Professor X uses a serum to temporarily regain mobility. Both characters' choices highlight how technology, when ethically applied, can provide individuals with freedom—not through imposed change, but through the expansion of personal agency.

Moreover, in *X-Men: Days of Future Past* (2014), Wolverine is sent back in time in hopes of reshaping the future relationship between humans and mutants. At that historical point, society had not yet developed open hostility toward mutants, maintaining instead an attitude of cautious curiosity. However, when figures like William Stryker manipulate the media to portray mutants as dangerous, public opinion swiftly shifts. This reflects a recurring pattern in history, where unfamiliar technologies often provoke societal fear and backlash. The film underscores the fact that society's acceptance of new technologies is heavily influenced by the circulation and framing of information. By the conclusion of *Days of Future Past* (2014), changes to the past successfully prevent the advancement of the Sentinel program, allowing mutants to live more freely in a reimagined future. This outcome emphasizes a critical point: the development of genetic technology should not aim to suppress any group. Instead, it should be guided by thoughtful policy that ensures all individuals benefit from technological progress. The narrative advocates for a vision of science that prioritizes human dignity,

inclusivity, and the responsible use of innovation to build a more equitable world. This line of reasoning clearly affirms the social value of genetic modification and emphasizes that its application can lead to a more equitable and empowered future. Society must learn how to coexist with technological advancements and ensure that genetic technologies are applied responsibly to promote collective progress—ultimately guiding humanity toward a more ideal future.

As a prominent symbol of modern culture, superhero films offer more than entertainment; they deeply reflect humanity's imagination surrounding evolution, technology, and the unknown. *Spider-Man*, for instance, emerges within a contemporary urban setting. The story of Peter Parker, an ordinary teenager who gains superpowers through a scientific accident, illustrates an optimistic belief in self-enhancement through technological development. In this view, technology is no longer merely a tool—it becomes a pathway for individuals to achieve their ideals and transcend limitations. This perspective is widely supported in contemporary science fiction literature and cinema. By contrast, *The Hulk* presents a more anxious view of unchecked scientific power. Dr. Bruce Banner's accident results in a profound conflict between his body and emotions, vividly symbolizing society's fears regarding the unintended consequences of genetic science and bioengineering. The Hulk's narrative reflects deeper concerns about the potential dangers of scientific overreach, especially when humanity attempts to surpass its biological boundaries, thus venturing into the unknown. The *X-Men* series, however, pushes this discourse further by embedding themes of human evolution and genetic mutation into rich social and historical contexts. Mutants, as products of genetic deviation, are not merely symbols of superpowers—they represent a social metaphor for how societies treat the other. The early *X-Men* films were set against the backdrop of the Cold War, an era marked by intense suspicion of difference, where political, racial, and ideological conflicts often converged (Fawaz 356). Magneto's backstory, for example, is rooted in the

Jewish experience of persecution during World War II, allowing the films to explore how societies respond to difference with exclusion, hostility, and fear.

Over time, however, the narrative of X-Men evolved alongside changing societal values. Recent films increasingly emphasize the possibility of peaceful coexistence and cooperation between humans and mutants. This shift reflects a growing social openness to genetic mutation and biological evolution (Porter 23–38). Importantly, such cultural transformations are not accidental; they are propelled by popular media, which gradually reshape public consciousness. As Ramzi Fawaz argues, superhero films not only mirror changes in social attitudes but also actively shape the public's imagination about the future of human evolution—promoting the idea that genetic mutation might one day serve as a solution to disease, war, and societal instability (Fawaz 358). In other words, the success of Marvel films lies not only in their entertainment value, but in their ability to capture and amplify society's evolving hopes and beliefs regarding genetics, superhuman abilities, and the future of evolution. Through these films, audiences have begun to reimagine mutants—once portrayed as threats—as potential agents of healing and progress. From Spider-Man to The Hulk, and ultimately to X-Men, the cultural and narrative trajectories of these characters clearly reveal a shift in societal attitudes toward evolution and science. What was once framed with fear and anxiety is now increasingly approached with hope and imagination. The interplay between cultural narratives and speculative fiction continues to blur the lines between science fiction and reality, encouraging a more open and constructive engagement with genetic engineering and the idea of human mutation.

Chapter IV: *The Incredible Hulk*: Mutation, Rage, and Moral Boundaries in the Marvel movie



Fig. 5. Hulk *The Incredible Hulk* (51:21).

Amidst the chaos of a military operation, General Ross dispatches a specialized task force of mercenaries, handpicked from the ranks of the British Royal Navy, to apprehend Bruce Banner. As the tension mounts, Banner's beloved Betty Ross finds herself caught in the crossfire, putting her life at imminent risk. Witnessing the danger his love faces, Banner's emotions surge with an uncontrollable fury, triggering his transformation into the formidable Hulk.

In the cinematic narrative of *The Incredible Hulk* (2008), the protagonist Dr. Bruce Banner (i.e., Hulk (Edward Norton)) emerges as a formidable menace, wielding his colossal physique and overwhelming strength, thereby becoming a harbinger of destructive consequences for the urban landscape. The uncontrollable nature of his powers results in catastrophic damage, placing the lives of citizens in imminent peril. This peril is explicitly witnessed during the intense engagement between Hulk and the military in New York City, a pivotal moment where the wanton destruction of numerous structures leads to substantial casualties. The profound implications of this confrontation extend beyond mere physical devastation, eliciting a proactive response from the governmental and military authorities, who then strive to contain this uncontrollable individual.

In this military confrontation, the depiction of Hulk's unbridled rage underscores the inherent challenges associated with regulating and restraining his capabilities. The portrayal of General Thaddeus Ross on the brink of mortality accentuates the unmanageable volatility of Hulk's abilities, directly imperiling high-ranking military officials. Thus, the cinematic rendition showcases Hulk as a supernatural force and highlights his immediate and severe threat to societal and human well-beings. The portrayal of these threats and damages illuminates the intricate predicaments Hulk presents as a mutant entity. Society, in turn, grapples with the necessity of developing certain strategies to navigate the unpredictability and uncontrollability inherent in such extraordinary powers. While governmental and military personnels attempt to mitigate Hulk's unbridled rampage, a difficult problem emerges. This uneasy task reveals the multifaceted dimensions of understanding and regulating his extraordinary abilities, thereby rendering Hulk a controversial and enigmatic presence. Therefore, the cinematic depiction of Hulk's threats and damages transcends the confinement of mere visual spectacle, offering a profound exploration into the challenges the mutants may pose to societal equilibrium and safety. Through this lens, audiences are prompted to

contemplate the enigma of uncontrollable superhuman abilities and their implications for the broader human society.



Fig. 6. Hulk destroys the tank. *The Incredible Hulk* (52:25).

Banner is attacked a second time by Ross and Blonsky's forces, causing Banner to again transform into the Hulk. The ensuing battle outside the university proves futile for Ross's forces.

The uncontrolled genetic mutation manifested by Hulk in *The Incredible Hulk* (2008) unfurls a narrative thread that vividly illustrates the profound societal disruptions wrought by this unpredictable phenomenon. The film provides a compelling portrayal that stimulates the audience's contemplation on the broader implications of genetic mutations on the fabric of society. Primarily, Hulk's uncontrolled genetic mutation triggers an assertive response from

government and military forces. Faced with the monumental task of mitigating his colossal destructive potential, the government must devise effective strategies to ensure public safety. However, as depicted in the film, the authorities struggle with the daunting challenge of comprehending and managing Hulk's existence, exposing the inherent difficulty in controlling such an unpredictable force. This predicament accentuates the unpredictability associated with mutant abilities and underscores the vulnerability of societal systems in responding to their threats.

Furthermore, as worries worsen, the societal landscape descends into chaos, fostering a pervasive fear among people. Hulk's unrestrained rampages not only wreak havoc on urban infrastructures but also pose a severe threat to the lives of ordinary citizens. This prevailing atmosphere of insecurity contributes to widespread apprehension and fear of the mutants, creating a volatile social environment. The emotional and psychological impact on society, as depicted in the film, serves as a poignant reminder of the potential ramifications of uncontrolled genetic mutations on the collective human psyche. Simultaneously, the government and military struggle to strike a delicate balance between safeguarding public security and respecting the rights of the mutants. As they pursue measures to counteract the hazards posed by Hulk, ethical and legal controversies ensue, prompting a profound examination of how societal frameworks grapple with the conflicting principles of safety and individual liberties. The film invites audiences to explore the moral and legal quandaries posed by the unchecked expression of mutant abilities. In conclusion, *The Incredible Hulk* (2008) masterfully portrays the repercussions of uncontrolled genetic mutations, offering audiences a multifaceted narrative that transcends mere superhero spectacle. Through its depiction of societal upheaval and ethical dilemmas, the film prompts viewers to reflect on the intricate interplay between genetic mutations and the foundations of societal stability.



Fig. 7. Abomination *The Incredible Hulk* (01:32:14).

Blonsky is in his eagerness to match the Hulk's strength, he agreed to be injected with a small dose of a similar serum. This concoction granted him enhanced speed, strength, agility, and even regenerative abilities. However, the power came at a terrible cost. The serum began to grotesquely deform his skeleton and impair his judgment, eventually transforming him into the monstrous Abomination.

In the film *The Incredible Hulk* (2008), the narrative delves deep into the challenges posed by Dr. Bruce Banner's mutated abilities and conjure up the various strategies to address these challenges. Striking a balance between mental and physical elements emerges as the central concern among these strategies. Firstly, at the individual level, Dr. Banner grapples with the challenge of emotional control in dealing with his mutated abilities. When angered, his transformation into the Hulk poses a significant threat to himself and the surrounding environment. To mitigate uncontrollable transformations, Dr. Banner employs methods such as yoga and breathing techniques, displaying the individual effort required to control mutated

abilities and emphasizing the importance of emotional regulation. Secondly, the film introduces a scientific and pharmaceutical strategy through Mr. Blue is cellular biologist Dr. Samuel Sterns. Mr. Blue represents the approach of scientific intervention and drug therapy. He seeks to create a drug capable of suppressing the Hulk's transforming abilities, allowing Dr. Banner to retain his rationality. However, this intervention is not without risks, as the introduced drug comes with the side effect of physical weakness. This highlights the potential unforeseen consequences of technological intervention and prompts ethical reflections. Lastly, the film concludes with a resolution, i.e., fusion. The fusion of Dr. Banner and the Hulk grants the doctor formidable abilities and preserves his rationality. This fusion symbolizes a balance between mental and physical aspects and signifies a novel concept of symbiosis. They no longer view mutants as threats, as the narrative advocates for integration and harmony, achieving coexistence. It represents a harmonious solution between the individual and their abilities and between science and morality. In summary, *The Incredible Hulk* (2008) explores Dr. Banner's unwilling transformation into imaginable and uncontrollable power and the subsequent solution to contain it. It presents diverse methods and strategies for dealing with mutated abilities, highlighting the balance required between emotional control, scientific intervention, and symbiotic fusion. This narrative inspires at the individual level and stimulates contemplation on technological advancements and ethical values.

The character design of the Hulk embodies modern humanity's fear and anxiety when confronted with the overreach of science. Leo A. Notenboom points out that "What we do not understand, we fear. What we fear, we judge as evil. What we judge as evil, we attempt to control. And what we cannot control... we attack" (Notenboom), Hulk reflects the deep psychological unease people feel when facing the unknown and the uncontrollable. In this light, Hulk becomes a symbolic projection of ethical concern about the boundaries of scientific control in an age of rapid technological advancement. Equally significant is the introduction

of Abomination, a character that amplifies fears of technological abuse. Unlike the accidental creation of Hulk, Abomination arises from deliberate military genetic experimentation, driven by human greed and the desire to manufacture a controllable weapon. This narrative structure not only warns audiences of the potential dangers of science but also confronts the moral dilemmas society faces in the pursuit of human enhancement through genetic engineering (Anomaly 4). The characters like Hulk and Abomination reflect humanity's conflicted psyche: a desire to transcend limitations through technology, paired with fear of losing control when those limits are breached. While superhero films offer imaginative portrayals of mutant potential and scientific progress, they simultaneously highlight the deep anxieties triggered when technological boundaries are crossed.

The conflict between Hulk and Abomination is not simply a battle between hero and villain; it serves as a symbolic confrontation between civilization and the ethical perils of unrestrained scientific ambition. Abomination's origin rooted in intentional military intervention epitomizes the arrogance and hubris embedded in modern science. From a literary perspective, Abomination functions as a scientific Faustian figure: a cautionary tale about humanity's obsessive pursuit of perfection. This motif has long been explored in literature, from Mary Shelley's *Frankenstein* to Robert Louis Stevenson's *Strange Case of Dr. Jekyll and Mr. Hyde*, which probe the consequences of manipulating nature and violating moral boundaries (Panek, Yusra P43-45). In *The Incredible Hulk* (2008), the soldier Emil Blonsky willingly undergoes a super-soldier serum procedure and later exposes himself to gamma radiation, resulting in his irreversible transformation into Abomination. This narrative does not merely advance the plot; it also symbolizes the deeper ethical conflict between technological power and moral restraint. It highlights how scientific enhancement, when driven by hubris or ambition, can lead to irreversible consequences and moral decline, reflecting broader anxieties in modern society.

Through Abomination's symbolic role, the film challenges viewers to reconsider whether scientific innovation should have clear boundaries. It raises the question: what is the moral cost of pursuing human evolution at any price? The Hulk narrative is ultimately a metaphor for the struggle between control and chaos (Kurtcagri), with Abomination representing the catastrophic consequences of unchecked scientific hubris. When science becomes militarized in the pursuit of creating controllable superhumans, it breaches a moral threshold, placing humanity on the brink of disaster. Abomination's emergence signifies not just a failed experiment, but a failure to reckon with the consequences of human ambition. Moreover, Abomination's design resonates with contemporary concerns around gene editing and military biotechnology. With the rapid development of CRISPR and other gene-editing technologies, the creation of an Abomination-like figure no longer seems entirely fictional. As Joy Sanchez-Taylor has noted, the line between science fiction and real-world application is increasingly blurred. The representation of Abomination compels public reflection on the ethical boundaries of biotechnology and the societal implications of enhancement science. The representation of Abomination compels public reflection on the ethical boundaries of biotechnology and the societal implications of enhancement science. The film thus becomes a vehicle for social critique, inviting necessary moral introspection about the true meaning of progress.

In sum, from both literary and cultural perspectives, Abomination in the Hulk franchise is far more than a conventional antagonist. He embodies the deeper anxieties of modern society toward emerging science. His presence serves as a cautionary reminder of the ethical tensions between ambition and responsibility. The ongoing conflict between technology and morality continues to challenge us, and in acknowledging our own scientific pride and desires, we may yet avoid the tragic patterns warned of in centuries of science fiction.

Chapter V: Conclusion: Mutation as Mirror and Message



Fig. 8. A.I.glasses *Spider-Man: Far From Home* (40:10).

Iron Man Tony Stark, the genius behind Iron Man, left Peter Parker a pair of sunglasses in his will. Embedded within these glasses is an artificial intelligence named E.D.I.T.H. (Enhanced Defense Integrated Threat Harness) that grants the wearer access to all of Stark Industries' data and the ability to control any Stark-built weaponry, including orbital satellites.

In the discussions on the above, we have examined three Marvel superhero movies dealing with the theme of genetic mutation : *The Incredible Hulk* (2008), *Spider-Man*, and *X-Men*. These three films depict three mutant protagonists with unimaginable superhuman abilities,

illustrating the diversity of genetic mutations and prompting deeper contemplations on technological advancement. We not only explore the impact of genetic mutations but also link these insights with today's most prevalent artificial intelligence (AI) issues. To summarizing the key findings and enlightening perspectives from the analysis, we take into account of these two considerations: (1) the expectations and applications of mutant genetic abilities, and (2) the caution and careful prevention of uncontrolled mutant genetic powers. The key discoveries are listed as below.

Firstly, Spider-Man exemplifies superpowers and adaptability within AI integration, suggesting a more positive future. This fusion could yield precise monitoring and forecasting systems, enhancing disaster response efficiency. However, it necessitates addressing privacy and information security concerns, emblematic of current AI challenges. Secondly, Mutant's diverse array of superpowers, if combined with AI, could revolutionize fields like materials manufacturing and environmental protection. However, maintaining aligned values is crucial to ensure the ethical application of AI. Lastly, *The Incredible Hulk's* (2008) unparalleled strength and self-healing abilities, if coupled with AI, offer unprecedented possibilities, especially in medical advancements. However, cautious handling is essential to prevent uncontrollable situations akin to the Hulk's episodes.

Building on these cinematic parallels, it is important to recognize that AI itself is a human-created linguistic algorithm—capable of learning, evolving, and even surpassing certain human limitations. This capacity mirrors the genetic mutation theories explored in this thesis: both AI and genetic advancements represent transformative potentials that challenge traditional boundaries of human capability. Yet, as with mutant powers, deploying AI requires careful ethical and regulatory consideration. Direct AI replacement of human labor, for instance, can lead to high unemployment and social unrest, while AI's intelligent assistance can help unlock human genetic potential and drive positive innovation. These dualities echo

the core questions raised by Spider-Man, X-Men, and *The Incredible Hulk* (2008): We have to harness technology's promise without sacrificing human dignity and ethical values. As this study highlights, balancing technological progress with moral responsibility is crucial to navigating a future shaped by genetic engineering and artificial intelligence. Establishing clear ethical frameworks will be essential for guiding the development and deployment of these technologies, while anticipating unintended consequences demands ongoing vigilance. Inclusive dialogue among technologists, ethicists, policymakers, and the public is necessary to create moral guidelines that truly reflect shared social values.

The Spider-Man series, for example, illustrates the tension between technological power and personal responsibility. Peter Parker's accidental genetic mutation symbolizes both the promise of scientific progress and the moral dilemmas it can provoke, such as AI surveillance and privacy erosion. Similarly, the X-Men series champions diversity and inclusion, reminding us that technological advancement must be aligned with fairness and equality to ensure that innovation does not reinforce social inequities. *The Incredible Hulk* (2008) also offers insights into the psychological conflicts and social adaptation challenges of merging humanity with powerful new technologies. Just as genetic modification enhances the human body by "rewriting cellular programming" (Boldrini), artificial intelligence achieves new levels of capability by reprogramming digital algorithms two parallel paths of transformation that redefine the limits of what it means to be human. As these powers grow, they introduce new dilemmas related to unemployment, social alienation, and psychological distress, since AI's unprecedented computing power and ability to process vast data sets can surpass human mental capacities altogether. These advanced tools, when used to amplify the best of our genetic potential, can also become instruments for exploitation or exclusion, creating new divides between those who have access and those who do not.

From a literary perspective, these superhero narratives serve as cultural texts that

dramatize and personify these abstract questions about power, agency, and human identity. In their larger-than-life figures and extraordinary conflicts, they embody metaphors for the human struggle with technological advancement: the yearning to surpass biological limits, the ethical weight of newfound power, and the fear of losing a sense of self within a rapidly changing world. These stories are not merely tales of heroism; they are modern myths that encode collective hopes and anxieties about progress itself. They emphasize that the promise of technological enhancement is never purely about science, but about how that science is understood, used, and narrated in the collective imagination.

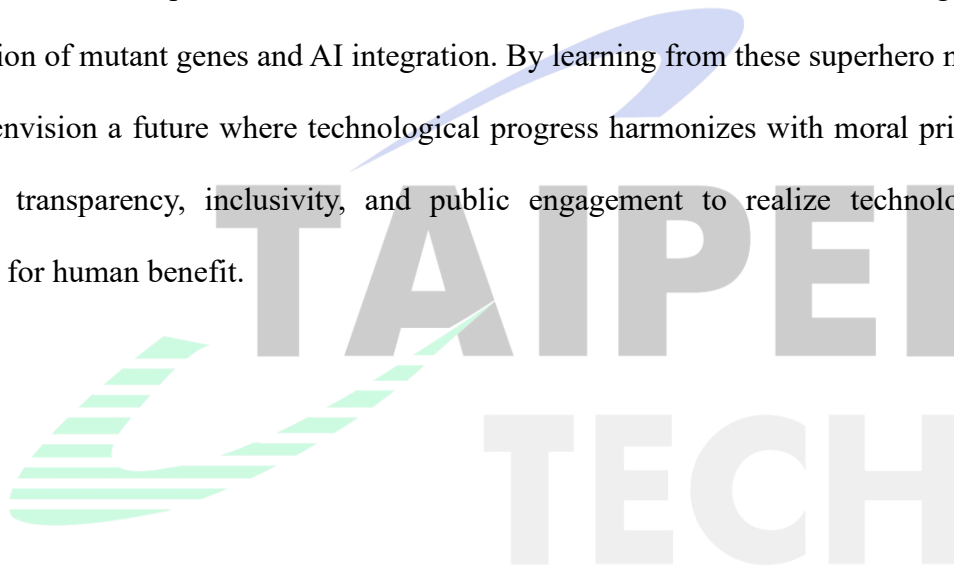
This dual-edged potential of human enhancement whether through gene editing or AI requires careful balance between progress and the preservation of shared humanity. Ensuring that these advances serve everyone rather than intensifying inequality involves proactive efforts to build support systems, ethical safeguards, and inclusive policies. These films underscore how the convergence of genetic mutation and AI integration extends beyond technological breakthroughs, surfacing urgent questions about social structures, moral responsibility, and “human well-being” (Jax and Heink).

Ultimately, only through broad, cross-disciplinary engagement including insights from literature and the humanities can we responsibly address these complex challenges and harness technology’s potential to promote human welfare and social harmony. Future research might explore how superhero narratives intersect with post-humanist literature, examining how these technological transformations reshape the identity and moral compass of the hero figure. As human and machine integration deepens, scholars may also consider how these stories evolve toward representations of “cyborg heroes” (Clynes and Kline 27) or even pure AI protagonists, an inquiry that invites fresh perspectives and critical debate.

Moreover, superhero narratives may shift from individualistic heroism to collective or “non-heroic” modes (Sanford), focusing less on extraordinary powers and more on how

ordinary individuals navigate technological change. Comparative literary studies will be crucial to understanding how non-Western societies reinterpret these narratives and how cultural differences shape representations of mutation and technological evolution. Finally, as environmental crises intensify, superhero stories may increasingly adopt frameworks of ecological heroes or environmental mutation, reframing heroism as a function of sustainability and collective survival rather than personal power. Such perspectives provide rich ground for reimagining heroism and guiding literary discussions about how cultural narratives can shape a more ethical, inclusive, and sustainable future.

In conclusion, proactive ethical considerations are essential for navigating the intersection of mutant genes and AI integration. By learning from these superhero narratives, we can envision a future where technological progress harmonizes with moral principles—ensuring transparency, inclusivity, and public engagement to realize technology’s full potential for human benefit.



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